



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Rose *et al.*

Serial No.: 10/032,157

Filed: December 21, 2001

For: PHASE SHIFT DEVICE IN  
SUPERCONDUCTOR LOGIC

Confirmation No.: 3581

Group Art Unit: 2812

Examiner: Not yet assigned

Attorney Docket No.: 11090-045-999

**DECLARATION OF MILES F. H. STEININGER UNDER 37 CFR § 1.47**

Box Missing Parts  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

I, MILES F. H. STEININGER, declare as follows:

1. I am the Intellectual Property Officer for D-Wave Systems, Inc., and have been in this capacity since July 3, 2001.
2. Upon information and belief, the subject matter of the present invention was conceived and developed by Geordie Rose, Mohammad H. S. Amin, Timothy Lee Duty, Alexandre Zagoskin, Alexander N. Omelyanchouk and Jeremy P. Hilton ("the inventors") while each was employed by D-Wave Systems, Inc. . Geordie Rose, Mohammad H. S. Amin, Alexandre Zagoskin, Alexander N. Omelyanchouk and Jeremy P. Hilton have signed a declaration for the application and an assignment to D-Wave Systems, Inc. Timothy Lee Duty has refused all attempts to obtain his signature for the declaration and assignment for the application.
3. Timothy Lee Duty's employment with D-Wave Systems, Inc., was terminated on November 7, 2001
4. After being reviewed by the inventors, two provisional applications, U.S. Patent Application Serial No. 60/257,624 filed December 22, 2000 and U.S. Patent Application Serial No. 60/325,719 filed September 28, 2001 were converted into a non-provisional patent application that was filed on December 21, 2001 with an unsigned declaration.

5. On February 6, 2002, formal documents were prepared by our then counsel, Skjerven, Morrill, MacPherson LLP, including a declaration and assignment for the inventor's signature and sent to D-Wave Systems, Inc., for gathering the inventors' signatures regarding the declaration and assignment.

6. On March 14, 2002, I contacted Timothy Lee Duty about signing the declaration and assignment. He refused to sign these documents.

7. Attached hereto as Exhibit A is an e-mail message dated March 14, 2002 to Timothy Lee Duty from myself asking him to sign the declaration and assignment for this matter which I had previously faxed to him.

8. Attached hereto as Exhibit B is Timothy Lee Duty's March 15, 2002 reply to my March 14, 2002 e-mail where he states "What is it [the assignment and declaration] and why should I sign it. If you remember, I don't work for D-Wave anymore."

9. Attached hereto as Exhibit C is my March 15, 2002 reply to Timothy Lee Duty's March 15, 2002 e-mail where I explain the declaration and assignment to him and the reason why he needs to sign them.

10. Attached hereto as Exhibit D is Geordie Rose, President and CEO of D-Wave System's May 15, 2002 e-mail to Timothy Lee Duty and Timothy Lee Duty's May 17, 2002 reply to Geordie Rose's May 15, 2002-mail where Duty states that "I am not too inclined to co-operate with you guys after what had happened."

11. Attached hereto as Exhibit E is Timothy Lee Duty's June 18, 2002 e-mail to Geordie Rose where he offers to sign the Declaration and Assignment "without delay" for "one months salary."

12. Attached hereto as Exhibit F is Geordie Rose's June 19, 2002 e-mail to Timothy Lee Duty stating that D-Wave Systems will not pay him to sign these documents.

13. Attached hereto as Exhibit G is Timothy Lee Duty's June 20, 2002 e-mail to Geordie Rose refusing to sign the declaration and assignment stating "Well then, I have nothing else to say to you. Goodbye."

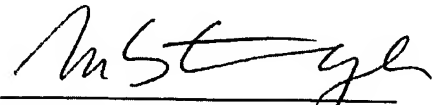
14. Attached hereto as Exhibit H is a copy of Timothy Lee Duty's employment contract with D-Wave Systems, Inc. Clause 5(a) gives D-Wave Systems, Inc. all rights to any inventions which he creates on while employed at D-Wave Systems, Inc., and Clause 5(d) gives D-Wave Systems, Inc., a power of attorney to sign whatever documents necessary to protect D-Wave Systems, Inc.'s

property rights in the instance where they are unable to secure his signature for "any such purpose in a timely manner."

15. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that all statements made by me herein are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that any willful false statements may jeopardize the validity of any patent resulting therefrom.

Respectfully Submitted,

By:



MILES F. H. STEININGER  
Intellectual Property Officer  
D-Wave Systems, Inc



Subject: Request for Signature  
Date: Thu, 14 Mar 2002 14:05:22 -0800  
From: Miles Steininger <miles@dwavesys.com>  
To: tim@fy.chalmers.se

Hello, rather "Hej", Tim,

Aside:

I think it has been nearly months since we last spoke. How did the move

to Goteborg go? How is post doc'ing?

I headed up to Berlin, enjoyed myself alot. Tried to go to Prague but

Amy could not get her Irish passport renewed in Berlin and I was enjoying Germany to much any how. Thanks for the advice re Canadain passports in the Czech Republic because that would have sucked being booted from the train.

I have a request. Please can you sign two forms that need to be submitted to the USPTO. I have faxed these to you at +46 31 772 344 2 as

per the EM Group web site. Can you sign both the "declaration ... and

power of attorney" document and the "assignment". In the case of the

assignment please find a witness -- anyone over 19. Cross out notary

public and insert "WITNESS" have the witness print there name and sign

the document. On the "declaration" please update your address.

Please mail the all the documents, not just those pages with your signature, to d-wave.

320-1985 West Broadway Vancouver BC V6J 4Y3

If you could do this by Tuesday that would be great.

Any questions call or email me.

Tack.

Hej da.

miles

--

Miles Steininger

Intellectual Property Officer  
D-Wave Systems Inc.  
(604) 732-6604

Subject: Re: signatures  
Date: Fri, 15 Mar 2002 04:44:49 -0800 (PST)  
From: "Tim Duty" <tim@fy.chalmers.se>  
To: <miles@dwavesys.com>

Hi,

Glad you had fun in Germany. I am actually back in Erlangen for the weekend, visiting friends. I will attend to the fax when I get back to Gothenburg. Could you give me some idea of what the document you want me to sign is all about? i.e. What is it and why should I sign it. If you remember, I don't work for D-Wave anymore.

Things are going very well for me at Chalmers. The research is definitely first rate. Trevligt helg, Tim

Subject: Re: signatures  
Date: Fri, 15 Mar 2002 13:35:37 -0800  
From: Miles Steininger <miles@dwavesys.com>  
To: Tim Duty <tim@fy.chalmers.se>

Hi Tim,

One has to love Europe a weekend trip and you are in another country,  
cool,  
enjoy yourself.

The documents relate to your role as an inventor on the phase shifter  
patent  
filed in December of 2000. It was a provisional filing and last fall  
Jeremy  
turned it into a full utility filing. The documents are "declaration  
and power  
of attorney" document that is needed by the USPTO office so that a  
patent lawyer  
can prosecute the patent on your behalf as an inventor. There is also an  
assignment form that also needs signing.  
The invention occurred while you were a d-wave employee so that is an  
easy one  
as to "why" sign that one.

I hope that clears it up but if it does not email me again. I am in  
California  
on Monday, and Tuesday.

miles

Tim Duty wrote:

> Hi,  
> Could you give me some idea of what the document you want me to  
> sign is all about? i.e. What is it and why should I sign it. If  
you  
> remember, I don't work for D-Wave anymore.

--

Miles Steininger

Intellectual Property Officer  
D-Wave Systems Inc.  
(604) 732-6604



Subject: Re: Hi & patent stuff  
 Date: Fri, 17 May 2002 15:52:50 +0200  
 From: "Tim Duty" <tim@fy.chalmers.se>  
 To: "Geordie Rose" <rose@dwavesys.com>

----- Original Message -----

From: "Geordie Rose" <rose@dwavesys.com>  
 To: <duty@physics.ubc.ca>  
 Sent: Wednesday, May 15, 2002 11:40 PM  
 Subject: Hi & patent stuff

> Hi Tim,  
 >  
 > How are things going at Chalmers? I've been wondering with all of  
 the  
 > recent  
 > spectacular results from saclay, kansas & your friends at erlange  
 n  
 that  
 > maybe  
 > the rf-set ideas would be abandoned. Are you guys still working i  
 n  
 this  
 > direction?  
 >

Things are going really well here and I'm still learning alot. By n  
 o  
 means  
 have we abandoned RF-SET readout yet. I thinks its clear, from the  
 Saclay  
 work, that the Cooper Pair Box really can function as a qubit. Read  
 out,  
 however, is still the problem. As nice as the Saclay work is, their  
 kind of  
 readout by switching to the voltage state gives quite a big shock t  
 o  
 the  
 system and I'm told it takes 80-100 microseconds to restablish the  
 system---not so great, eh? The RF-SET is still viable as far as I'  
 m  
 concerned and progress is being made. Han's work is very cool, inde  
 ed.  
 We  
 almost could have done that in Erlangen and I discussed the idea a  
 few  
 times  
 with Andreas, but his concern was the the fluxon qubit. Anyway, tha

t  
 was one  
 of the disadvantages with my situation with D-Wave and Erlangen, I n  
 ever  
 got  
 to call the shots, so to speak. One of the best things about being  
 here  
 is  
 that I really play a big role in what's going on, its just me, Per  
 and  
 two  
 Ph.D. students and some of the best facilities in the world. And I  
 have  
 the  
 major responsibility of getting the experiments up and working. Thi  
 s is  
 what  
 I was hoping for and really what pulled me away from D-Wave. I hop  
 e  
 you  
 understand, I needed to do this for my own good, both techically an  
 d  
 professionally.

While we're on this subject, and now since you're looking for m  
 y  
 cooperation now, I think its a good time to say a few thinks about  
 my  
 dismissal. I am still quite shocked that I was treated like a thug.  
 Especially since I did absolutely nothing wrong. The manner in whic  
 h  
 Alex  
 handled the situation was meant to do as much damage personally and  
 professionally to me as he thought possible. It cause me financial  
 hardship,  
 just before Christmas, thanks, and I actually think he thought it w  
 as  
 possible to sabotage my very solid relationship with Ustinov and  
 Wallraff.  
 Fortunately, they stuck up for me and allowed me to contribute to t  
 he  
 project that I had worked so very hard on, seeing it to come to  
 completion  
 with the multiphoton paper that will be submitted soon. I've been  
 in  
 contact with Andreas over the last few months and have contributed  
 alot  
 to  
 understanding those results. I can't imagine for the life of me, wh

at  
you  
guys were thinking when you dismissed me in that manner. It was  
unnecessary, uncalled for, and left a bad taste in my mouth concern  
ing  
D-Wave. I think it would have been much better for D-Wave to have  
treated me  
with a little bit of respect. I could have still contributed a litt  
le  
and  
certainly have grown much more valuable over the last few months wi  
th  
respect to my skills and knowledge.

So, yes, I did receive something from Miles about a patent. But  
it  
hasn't  
been high on my priority list of things to deal with. I'm 12-14 hou  
rs a  
day  
in the lab for the last 2 months including most weekends. And I'm n  
ot  
too  
inclined to co-operate with you guys after what happened. Maybe tha  
t  
could  
change though. Cheers, Tim

> Also apparently we have to file some forms for a patent you  
co-authored  
> called  
> "Phase Shifter Device"; attorney reference number M-12242 US, wh  
ere  
we  
> need  
> you to sign something and fax it back to us. Have you received th  
is?  
If  
> not, could  
> you send me your fax number so we can send it over. The deadline  
for  
us  
> submitting this  
> to the patent office is May 25th.  
>  
> Cheers  
>  
> Geordie  
>

> --  
> Dr. Geordie Rose  
> President  
> D-Wave Systems Inc.  
> 604.732.6604  
>  
> \*\*\*\*\*  
>  
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>  
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>  
>

Subject: Re: some news  
Date: Tue, 18 Jun 2002 18:48:14 +0200  
From: "Tim Duty" <tim@fy.chalmers.se>  
To: "Geordie Rose" <rose@dwavesys.com>

Hi,

Should have the results written up by the end of August and will send you a preprint. This kind of result sure stirs up some interest. Nakamura was here for a PhD defense a few weeks ago, before the big result---very nice guy. We talked quite a lot, so I informed him about these latest results. He was very excited, saying that we are the first to reproduce this kind of data, and giving us a big plus for using an RF-SET. I can tell you that even now, we can see a lot of things that he couldn't, and we've only just begun. So now I correspond with Nakamura at least once a day. I had some questions for him about some problem with controlling the pulse generator, and he replied, sending me all his LabView code for pulsing, including that for echo experiments! He really wants to cooperate in every way.

>  
> Re. the patent docs: if you could sign & send back the  
> stuff I would appreciate it.  
>

OK, let me first say that I never had any problems working with you at D-Wave, except that I wish you would have moderated Alex a little when it came to my departure. Concerning the patent documents, I propose that

we  
make a deal.

I had to endure the entire month of December without pay. Moreover,  
during  
this period I was working very long hours in Erlangen, finishing up  
analysis  
of the multi-photon data, and making absolutely essential contribut  
ion  
to  
that project---ask Alexey if you like. Andreas has one technique pa  
per  
on  
cond-mat, and will be submitting another one soon, probably to PRL,  
on  
which  
I am the second author, due to my invaluable contribution to those  
results.  
The point I am making is that I continued work on that project, at  
a  
very  
crucial time for those results, without pay, living out of my own  
pocket for  
a month. Alexey did give me just about enough money to cover the fl  
ight  
back  
to Germany from Vancouver, but the rest came out of my savings.

So I would propose that you deposit 1 months salary, at the rate I  
was  
making at that time, to my bank account there, B.O.M. Acct. # 081  
1  
3320-541, and I will sign and return the patent docs without delay.  
I  
think  
this is rather fair. What do you think? Tim

Subject: Re: some news  
Date: Wed, 19 Jun 2002 16:09:28 -0700  
From: Geordie Rose <rose@dwavesys.com>  
To: Tim Duty <tim@fy.chalmers.se>

Hi Tim,

I have discussed the patent matter with Sarah and Bob. Here is our point of view on this:

We have a large (& growing) number of people who contribute to our patent portfolio. In many of these cases we need signatures from people, many of which are in different situations than when they were inventors. The deal is very simple: we compensate inventors, they invent, we patent, they sign some stuff. In the deal we get patent ownership, we pay for the patents, and the inventor gets their name on the patent and compensation. In every case we have contracts that both parties agree are fair to clarify what is expected.

I think it is clear that we can't pay for your signatures. The most clearcut reason from our point of view is that we can't set a precedent of not enforcing our rights under the various contracts we have.

I think that having authorship on this patent will be valuable for you in and of itself.

There are many people now who have a real interest in D-Wave's success and being

an inventor on one of our patents will be viewed positively by many people (including for example Tord Claeson), not to mention the fact that Alexey won't get paid his (large) bonus if the patent isn't filed.

In terms of timelines, we have already paid a late fee, and will incur another in a week. In 4 weeks we lose the ability to pursue the patent.

Just between you and me, in the event that we don't get the signatures, the people here mean to legally enforce the contract you signed & agreed to, even if this is expensive, to set an example. This is absolutely no joke and you should consider this before making a decision.

Geordie

Tim Duty wrote:

> Hi,  
>  
> Should have the results written up by the end of August and will send you  
> a preprint. This kind of result sure stirs up some interest. Nakamura was  
> here for a PhD defense a few weeks ago, before the big result---very



nice

> guy. We talked quite alot, so I informed him about these latest results. He

> was very excited, saying that we are the first to reproduce this kind

of

> data, and giving us a big plus for using an RF-SET. I can tell you

that even

> now, we can see alot of things that he couldn't, and we've only just

begun.

> So now I correspond with Nakamura at least once a day. I had some

questions

> for him about some problem with controlling the pulse generator, and

he

> replied, sending me all his LabView code for pulsing, including that

for

> echo experiments! He really wants to cooperate in every way.

>

> >

> > Re. the patent docs: if you could sign & send back the

> > stuff I would appreciate it.

> >

>

> OK, let me first say that I never had any problems working with you

at

> D-Wave, except that I wish you would have moderated Alex a little

when it

> came to my departure. Concerning the patent documents, I propose that

we

> make a deal.

>

> I had to endure the entire month of December without pay. Moreover,

during

> this period I was working very long hours in Erlangen, finishing up

analysis

> of the multi-photon data, and making absolutely essential contribution to

> that project---ask Alexey if you like. Andreas has one technique

paper on  
> cond-mat, and will be submitting another one soon, probably to PR  
L,  
on which  
> I am the second author, due to my invaluable contribution to those  
results.  
> The point I am making is that I continued work on that project, at a  
very  
> crucial time for those results, without pay, living out of my own  
pocket for  
> a month. Alexey did give me just about enough money to cover the  
flight back  
> to Germany from Vancouver, but the rest came out of my savings.  
>  
> So I would propose that you deposit 1 months salary, at the rate  
I  
was  
> making at that time, to my bank account there, B.O.M. Acct. # 0  
811  
> 3320-541, and I will sign and return the patent docs without delay. I  
think  
> this is rather fair. What do you think? Tim

--

Dr. Geordie Rose  
President  
D-Wave Systems Inc.  
604.732.6604

\*\*\*\*\*

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Subject: Re: some news  
Date: Thu, 20 Jun 2002 02:57:22 +0200  
From: "Tim Duty" <tim@fy.chalmers.se>  
To: "Geordie Rose" <rose@dwavesys.com>

Geordie,

Well then, I have nothing else to say to you. Goodbye.



320-1985 West Broadway  
Vancouver, British Columbia  
V6J 4Y3 Canada  
Tel.: +(604) 732 6604  
Fax: +(604) 732 6614  
E-mail: zagoskin@dwavesys.com

## *D-Wave Systems Inc.*

July 16, 2001

To: Dr. Timothy Lee Duty  
#802 1340 W. 12th Ave.  
Vancouver, BC V6H 1M5  
(604) 719-5185

Fichtestrasse 15  
Erlangen, Germany  
91054  
049 9131 973 058  
049 160 380 3760

Re: Employment Offer

This Agreement sets out the terms and conditions of your employment with D-Wave Systems Inc. (the "Company").

IN CONSIDERATION of the promises and mutual covenants set forth in this document, and of your employment, and in consideration of the payment of Ten Dollars (\$10.00) and other good and valuable consideration by the Company to you, the receipt and sufficiency of which you hereby acknowledge, we agree as follows:

1. Definitions: Unless otherwise specified, capitalized terms shall have the meaning as set out in Schedule "A".
2. Term: Your employment commenced as of January 1, 2000, (the "Commencement Date") and will continue until this Agreement is terminated as hereinafter provided.

**3. Position and Duties:**

- (a) **Position and Duties:** You will be employed by the Company in the position of staff scientist. You will perform or fulfil such duties and responsibilities as directed from time to time by the Company. The nature of the business of the Company requires that you be flexible. Accordingly, the Company may assign new or different duties to you or change your position at any time in its discretion.
- (b) **Scope:** During your employment, you will devote the whole of your full time, attention, and abilities to effective and competent performance of your duties, and you will give the Company the full benefit of your knowledge, expertise, technical skill and ingenuity.

**4. Compensation:**

- (a) **Salary:** You will receive an annual salary (the "Salary") in the amount of \$60,000, payable in equal installments on the 15<sup>th</sup> and last day of each month net of all required or permitted withholdings and remissions.

Your Salary will be reviewed annually, and may be adjusted by the Company in its discretion.

- (b) **Employee Stock Option Plan:** You will be entitled to participate in the Stock Option Plan (the "Plan") of the Company in accordance with the terms of the Plan as altered or amended by the Board from time to time.
- (c) **Vacation Entitlement:** You will be entitled to an annual paid vacation equal to four (4) weeks in each calendar year of employment pro-rated for any partial year, to be taken in accordance with the Company's vacation policy in effect from time to time. You must use your vacation each year. If you do not take your full vacation entitlement, in any year, the balance cannot be carried forward and applied in subsequent years.
- (d) **Medical Insurance and Other Benefits:** You will be eligible to participate in the benefit plans and programs of the Company. The Company will pay partial premium costs of the following benefits:

- Extended Health  
Dental
- Long-Term Disability
- Life Insurance

Your eligibility and entitlement to benefits will be determined by the terms and conditions of the insurance plans or programs purchased by the Company. The Company reserves the right to alter or delete part or all of any benefit or change benefit carriers at any time in its discretion.

**5. Assignment of Interest in Innovations:**

- (a) **Disclosure:** You will make prompt and full disclosure to the Company of any development, production, process, design, patent, patent application, trade secret, confidential technology, know-how or improvement relating to the Business of the Company conceived, made, improved upon, reduced to practise or participated in by you, solely or jointly, in the course of or relating to your employment with the Company or with any other member of the Group (the "Innovations").
- (b) **Assignment:** The Company will hold all Intellectual Property Rights in respect of the Innovations for the exclusive benefit of the Company and you will not claim or apply for registration or challenge the Company's registration of, any such Intellectual Property Rights. You absolutely, unconditionally and irrevocably assign, transfer and convey all past, present and future right, title, benefit and interest in and to all Intellectual Property Rights in respect of the Innovations. You waive in favour of the Company all claims of any nature whatsoever that you now or hereafter may have for infringement of any Intellectual Property Rights for the Innovations so assigned to the Company. To the extent that copyright may subsist in the Innovations, you waive all past, present and future moral rights you may have.
- (c) **Intellectual Property Protection:** The Innovations and all related Intellectual Property Rights will be the absolute and exclusive property of the Company. The Company may apply for patent, copyright or other intellectual property protection in the Company's name or, where such procedure is proper, in your name, anywhere in the world. You will, at the Company's request, execute all documents and do all such acts and things considered necessary by the Company to obtain, confirm or enforce any Intellectual Property Rights in respect of the Innovations. If the Company requires but is unable to secure your signature for any such purpose in a timely manner, you hereby irrevocably designate and appoint the Company and any duly authorized officer or agent of the Company as

your agent and attorney, to act for you and in your behalf and stead to execute any such documents and to do all other lawfully permitted acts to carry out the intent of this provision, with the same legal force and effect as if executed or done by you.

**6. Fidelity and Confidentiality:**

- (a) **Performance and Duty to the Company:** Throughout your employment you will well and faithfully serve the Company and use all reasonable endeavours to promote the interests of the Company. You will act honestly, in good faith and in the best interests of the Company. You will adhere to all applicable policies of the Company as may be amended from time to time by Company in its discretion.
- (b) **Business of the Company:** You will not, during your employment with the Company, engage in any business, enterprise or activity that is contrary to or detracts from the due performance of the Business of the Company.
- (c) **Confidentiality:** During your employment with the Company and thereafter, you will retain in the strictest confidence all Confidential Information developed, utilised or received by the Company and each other member of the Group or that you acquire, see or are informed of, as a direct or indirect consequence of your involvement with the Company in any capacity or that is revealed to you by the Company or is generated through negotiations or other activities of the parties in connection with your involvement, in any capacity, with the Business of the Company and will not disclose or permit the disclosure of Confidential Information in any manner other than in the course of your employment with and for the benefit of the Company or as required by law or a regulatory authority having jurisdiction. You will not use Confidential Information for your own personal benefit or permit it to be used for the benefit of any party other than the Company.
- (d) **Exceptions:** Any obligations specified in subsection 6(c) will not apply to:
  - (i) any information which is presently in the public domain; or
  - (ii) any information that subsequently becomes part of the public domain through no fault of your own.
- (e) **Customer Contacts:** During your employment you will communicate and channel to the Company all knowledge, business and customer contacts and any other information that could concern or be in any way beneficial to the Business

of the Company. Any such information communicated to the Company will be and remain the property of the Company.

- (f) **Prior Employers:** The Company is not employing you to obtain, and you will not disclose to the Company, any confidential information of any prior employer. You will not pursue any business opportunities of any prior employer that you are not entitled to pursue and you will otherwise comply with any obligations to any prior employer.
- (g) **Return of Company Property:** Upon termination of your employment, you will promptly return to the Company all Company property including all written information, tapes, discs or memory devices and copies thereof including, without limitation, all papers, drawings, notes, notebooks, correspondence, records, reports, lists, photographs, memoranda, manuals, specifications, designs, devices and documents, and any other material on any medium in your possession or control pertaining to the Business of the Company. You will also return any keys, pass cards, identification cards or other property belonging to the Company.

## 7. Restrictive Covenant

- (a) The parties acknowledge that the business of the Company is highly competitive and that in the course of your employment you will be privy to Confidential Information and other information concerning the business of the Company and that the business of the Company would be vulnerable to competition from you.
- (b) Accordingly, you will not during the term of your employment with the Company and for a one year period following the date that your employment with the Company ceases (regardless of who initiated the termination and whether the termination was with or without cause), either individually or in partnership, or in conjunction in any way with any other persons, whether as principal, agent, consultant, shareholder, guarantor, creditor, or in any other manner whatsoever:
  - (i) engage in, carry on or otherwise be concerned with or have any interest in, or advise, lend money to, guarantee the debts or obligations of, permit your name, or any part thereof, to be used or employed by any person, firm, association, syndicate or corporation engaged in or concerned with a business competitive with that of the Company in any province or state in which the Company carries on its business at the time of termination of your employment;
  - (ii) solicit, interfere with or endeavour to entice away from the Company, accept any business from or the patronage of or enter into the employment of or render any service to, sell to or contract or attempt to contract with,



any person, firm, or corporation wh was, during term of your employment, a client, customer or supplier of the Company, or a prospective client, customer or supplier of the Company;

- (iii) offer employment to or endeavour to entice away from the Company or to employ any person who was employed by the Company on the date of the termination of your employment.
- (c) The parties agree that the foregoing provisions are reasonable and necessary in order to protect the interests of the Company.
- (d) You agree and acknowledge that this covenant is given for good and valuable consideration (receipt of which is hereby acknowledged) and that by reason of your unique knowledge of and association with the business of the Company, the scope of this covenant as to both time and area is reasonable and commensurate with the protection of the legitimate interests of the Company. Section 7 of this Agreement applies regardless of the reason for your cessation of employment from the Company, and is severable from the other provisions of this Agreement.
- (e) You acknowledge that the damages the Company may suffer for breach of Section 7(b) of this Agreement may be irreparable, and in any event would be difficult, if not impossible, to ascertain, and you agree that the Company will have the right to an injunction or other available equitable relief in any court of competent jurisdiction, enjoining any threatened or actual breach. The existence of a right to an injunction or other available equitable relief will not preclude the Company from pursuing any other rights and remedies at law or in equity which it may have, including the right to seek recovery of damages.
- (f) The parties agree that if a court of competent jurisdiction will limit, restrict or otherwise change the geographical area, the time period or the types of business referred to in this section, then the limited, restricted or changed geographical area, time period or types of business determined by such a court will, for the purposes of this Section 7, be deemed to be the original geographic area and/or time period and/or types of business referred to in such Sections as if they were the original geographic area, time period and business set out herein.

8. **Resignation:** At any time you can resign from employment with the Company by providing to the Company two (2) weeks' prior written notice of your resignation. The Company may elect, in its discretion, to not require that you attend at work for any portion of this two (2) week notice period in which case your Salary would continue for the balance of the notice period and your benefits would, at the option of the Company, cease effective your last day of work.

**9. Termination:**

- (a) **With Cause:** The Company may immediately terminate your employment if you exhibit conduct of any kind that would justify an employer in British Columbia discharging an employee for cause at common law.
- (b) **Without Cause:** At any time, the Company may terminate your employment without cause by providing you with only the minimum notice or payment in lieu of notice requirements, and no more, prescribed by the *Employment Standards Act* (British Columbia) or any successor legislation, as amended from time to time.
- (c) **Disability:** Subject to the *Human Rights Code* (British Columbia), the Company may terminate your employment immediately after delivery by the Company to you of a notice of termination of your employment if:
  - (i) you are unable to competently perform your duties hereunder for any 120 consecutive days or 180 non-consecutive days in any 12 month period by reason of illness or mental or physical disability or total or partial incapacity for any reason as certified by a duly qualified medical practitioner; or
  - (ii) you are unable to perform your duties hereunder for the foreseeable future by reason of total incapacity as certified by a duly qualified medical practitioner.

**10. Irreparable Harm:** You acknowledge and agree that a breach of any of the covenants of this Agreement by you cannot be adequately compensated for such damages by monetary award, and may cause irreparable harm to the Company. Accordingly, you agree that in addition to all of the remedies available to the Company at law or in equity, the Company will be entitled as a matter of right to apply for equitable relief (including without limitation, injunctive relief) to ensure your compliance with the provisions of this Agreement.

**11. Assignment and Enurement:** You may not assign this Agreement, any part of this Agreement or any of your rights under this Agreement without the prior written consent of the Company. The Company may assign this Agreement to any Affiliate or other entity at any time in its discretion. This Agreement enures to the benefit of and is binding upon Employee and the Company and the respective heirs, executors, administrators, successors and permitted assigns.

**12. Severability:** If any provision or portion of this Agreement is determined to be invalid or unenforceable for any reason, then that provision or portion will be severed from this Agreement. The rest of this Agreement will remain in full force and effect.

**13. Entire Agreement:** This Agreement contains the whole agreement between you and the Company with respect to your employment with the Company, and there are no


representations, warranties, collateral terms or conditions, express or implied, other than as set forth in this Agreement. This Agreement supersedes any written or oral agreement or understanding between you and the Company. No change or modification of this Agreement will be valid unless it is in writing and initialled by both parties.

- 14. Notice:** Any notice required or permitted to be given hereunder must be in writing and will be sufficiently given or made if delivered or sent by registered mail to the address of the parties set out on page 1 hereof. Any notice so given will be deemed to have been given and to have been received on the day of delivery if it is a business day and otherwise on the next succeeding business day or, if mailed, on the third business day following the mailing thereof (excluding each day during which there exists any interruption of postal services due to strike, lockout or other cause). Addresses for notice may be changed by giving notice in accordance with this section.
- 15. Non-waiver:** No failure or delay by you or the Company in exercising any power or right under this Agreement will operate as a waiver of such power or right. Any consent or waiver by you or by the Company to any breach or default under this Agreement will be effective only in the specific instance and for the specific purpose for which it was given.
- 16. Survival of Terms:** The provisions of Sections 1, and 5, subsections 6(c), (d) and (g) and Sections 7 to 19 of this Agreement will survive the termination of your employment and this Agreement.
- 17. Further Assistance:** The parties will execute and deliver any documents and perform any acts necessary to carry out the intent of this Agreement.
- 18. Time:** Time is of the essence of this Agreement.

- 19. Governing Laws:** This Agreement will be construed in accordance with and governed by the laws of British Columbia and the laws of Canada applicable in British Columbia and the parties agree to conduct any litigation arising from this contract in the province of British Columbia.

**THE PARTIES** have executed this agreement as of the date written above.

**D-WAVE SYSTEMS INC.**

Per:   
for Alexandre Zagoskin  
VP Research and Chief Scientist

I acknowledge and accept the terms and conditions of my employment with the Company as set out above.

  
TIMOTHY DUTY

### Schedule "A"

Definitions are as follows:

**"Affiliate"** has the same meaning as in the British Columbia *Company Act* or any successor legislation, as amended from time to time.

**"Board"** means the board of directors of the Company.

**"Business of the Company"** means (i) any development of the Company's; (ii) development of clients of the Company's including marketing, sales, technical or other such processes; (iii) any business involved in the commercialisation of a quantum computer using superconducting devices; and (iv) any other material business carried on from time to time by the Company or any other member of the Group.

**"Competitive Business"** means any business or enterprise that competes with the Business of the Company.

**"Confidential Information"** means:

- (a) all confidential or proprietary facts, data, techniques, technical know-how, trade secrets, financial information and other information relating to the Business of the Company including, without limitation, products, concepts, processes, methods, designs, customer lists, supplier lists or industry contacts which may before or after the date of this Agreement be disclosed to you by the Company or by any other member of the Group or which may otherwise come within your knowledge or which may be developed by you in the course of your employment or from any other Confidential Information; and
- (b) confidential and proprietary information disclosed to the Company by third parties subject to restrictions on use or disclosure.

**"Group"** means the Company and its Affiliates.

**"Intellectual Property Rights"** means all rights in respect of intellectual property including, without limitation, all patent, industrial design, know-how, trade secret, privacy and trade-mark rights and copyright, to the extent those rights may subsist anywhere in the universe.

## STOCK OPTION AGREEMENT

Dear Tim Duty:

**Re: Stock Options**

D-WAVE SYSTEMS INC. (the "Company") hereby offers you an option ("Option") to purchase Class B common shares in the capital of the Company pursuant to the Stock Option Plan established by the Company (the "Plan"), a copy of which is available for review at the office of the Company and will be provided to you upon request, subject to the terms and conditions set out below. All capitalized terms without separate definition have the meaning ascribed to them in the Plan.

Your option is subject to the terms and conditions of the Plan, which are deemed to be incorporated in this agreement, and is subject to the following specific provisions:

**Date of Grant:** January 1, 2001

**Type of Option:** Employee

**Number of Shares:** 43,000

**Exercise Price:** \$0.01 per option

**Term of Option:** 4 years

**Exercise Period:** From the Date of Grant until the Expiry Dates set out below

**Expiry Date:** per the Stock Option Plan

**Vesting Periods:** Your Options will vest as follows:

January 1, 2001	13,000
January 1, 2002	7,000
January 1, 2003	11,000
January 1, 2004	12,000

Your stock options may be exercised in whole or in part at any time during the Exercise Period by notice in writing to the Company specifying (a) your desire to exercise your Option to purchase shares and (b) the number of shares with respect to which you are exercising your Option. The notice must be accompanied by a cheque or bank draft in favour of the Company payable in Canadian funds in full payment of the Exercise Price for the number of shares then being purchased. The Company may also require you to sign a form in respect of the shares to be purchased.

Any shares issued to you as a result of the exercise of your Option will be issued under an exemption from the prospectus requirements of the British Columbia *Securities Act* and Regulation (the "Act"). The sale by you of those shares is subject to the resale rules of the Act and the articles of the

Company. If you are in doubt about the applicable requirements of the Act, you should seek independent legal advice.

The Company may give you notice (a "Sale Notice") of a proposed sale of shares of the Company which involves a change of control (meaning the right to exercise a majority of the votes which may be cast at a general meeting of the Company). The Sale Notice will include the price per share offered by the proposed purchaser and the other material terms and conditions of the proposed sale. Upon a Sale Notice being delivered to you, the Company may, at its option, require that you sell your shares to the proposed purchaser on the terms and conditions set forth in the Sale Notice, and you agree to do so and to execute and deliver to the Company or the proposed purchaser, or their designate, all documents reasonably required to transfer your shares.

If you would like to accept this Option on the terms and conditions noted, please sign in the space provided below.

**D-WAVE SYSTEMS INC.**

Per: \_\_\_\_\_

Alexandre Zagorski

I, **Timothy Duty**,  
hereby accept the above stock option  
and agree to the terms and conditions  
described above, including the terms  
and conditions of the Plan, as of this \_\_\_\_  
day of \_\_\_\_\_, 2001.

\_\_\_\_\_

**Timothy Duty**

\_\_\_\_\_

Witness: \_\_\_\_\_

Sarah Levine

(Please print name)